In the name *Al*benigaras there is sufficient resemblance to the name Beeragurh with the Arabic prefix *Al* to make it probable that they were identical. V. BALL

Calcutta, January 12

NOTES

WE hear that good progress is being made with the reprint of the late Prof. A. H. Garrod's scientific papers, the publication of which may be expected early in the summer. It will form a volume of about 500 octavo pages, illustrated by more than thirty plates and about 200 woodcuts. Mr. Hubert Herkomer, A.R.A., the well-known artist, has most kindly undertaken to execute an etching of the late professor, as a frontispiece to the volume. The edition will be limited to a very small number of copies only, most of which are already subscribed for. Those who wish to add their names to the list of subscribers before it is closed, are requested to communicate at once with the secretary of the Garrod Memorial Fund, 11, Hanover Square, W., who will also be glad to receive subscriptions already promised. Cheques to be crossed "London and County Bank, Hanover Square."

WRITING to the *Times* on Friday last, Mr. Sclater calls attention to the fact that the collection of birds of the late John Gould, the ornithologist, had been offered to the Trustees of the British Museum for 3000*l.*, and expressed a hope that there will be no difficulty on the part of the Treasury in sanctioning the expenditure. The collection is stated to embrace about 1500 mounted and 3800 unmounted specimens of humming-birds, being the types from which the descriptions and figures in the celebrated "Monograph of the Trochilidæ" were taken. There are besides 7000 other skins of various groups, amongst which are splendid series of the families of Toucans, Trogons, Birds of Paradise, and Piltas.

THE following course of lectures will be given by Members of the Committee on Solar Physics appointed by the Lords of the Committee of Council on Education:—An Introductory Lecture, by Prof. Stokes, Sec. R.S.; April 6. A Lecture on the Practical Importance of Studying the Influence of the Sun on Terrestrial Phenomena, by Lieut.-General Strachey, R.E., C.S.I., F.R.S.; April 8. Two lectures on the Connection between Solar and Terrestrial Phenomena, by Prof. Balfour Stewart, F.R.S.; April 27 and 29. Six lectures on Spectroscopy in relation to Solar Chemistry, by Mr. J. Norman Lockyer, F.R.S.; May 4, 6, 11, 13, 18, and 20. Three lectures on the Photography of the Infra-red of the Spectrum in its Application to Solar Physics, by Capt. Abney, R.E., F.R.S., May 25 and 27, and June 1. The lectures will be delivered in the Lecture Theatre of the South Kensington Museum at 4 p.m. on the days stated above. Admission will be by tickets, which may be obtained, as far as there is room, on application by letter to the Secretary, Science and Art Department, South Kensington, S.W.

WE must remind our readers that the French Association will hold its next session in April at Algiers, beginning on the 14th. Those who have been enrolled members will have the advantage of half price for railway travelling, and of a special steamer from Port Vendres to Algiers. This ship will leave Marseilles on the 11th, calling at Port Vendres on the 12th. The lists were closed some time ago, but by addressing, without loss of time, M. Gariel, General Secretary of the Association, Paris, Rue de Rennes, all particulars relating to the excursions, which are very numerous and attractive, some of them including a tour in the Algerian Sahara, will be given. An industrial exhibition has been organised in Algiers, with races, *fêtes*, and inauguration of the Algerian Institute, which is directed by M. Pomel, Senator. Mr. F. Maxwell-Lyte, Hon. Foreign Secretary of the Association, Science Club, Savile Row, will be happy to afford further information to intending English visitors.

THE arrangements for the International Medical and Sanitary Exhibition are progressing so satisfactorily that it promises to be the most important Sanitary Exhibition hitherto organised in this country. Applications for space are now being rapidly sent in, as the 31st inst. is the last day fixed by the Committee for receiving them. Up to March 15 applications for 984 feet had been received by the Committee. The Certificates of Merit which are to be given will be valuable awards to the public and to the successful exhibitors on account of the high character of the list of jurors, which already includes among many other the following:—Medical Section: Christopher Heath, F.R.C.S., Wm. S. Playfair, M.D., Charles Higgins, F.R.C.S., Chas. S. Tomes, F.R.S., Prof. John Marshall, F.R.S., Dr. Robert Farquharson, M.P., the president of the Pharmaceutical Society, C. H. Golding-Bird, F.R.C.S., Lionel Beale, F.R.S., W. B. Carpenter, C.B., F.R.S., J. S. Bristowe, M.D., Major Duncan, R.A., Surgeon-General Longmore, C.B., E. H. Sieveking, M.D., &c., &c.; Sanitary Section: Sir Joseph Fayrer, K.C.S.I., M.D., F.R.S., Geo. Aitchison, F.R.I.B.A., Edwd. C. Robins, F.S.A., T. Roger Smith, F.R.I.B.A., F. J. Monat, M.D., Alfred Waterhouse, A.R.A., Capt. Douglas Galton, C.B., F.R.S., Ernest Hart, M.R.C.S., Prof. Corfield, Wm. Eassie, C.E., Roger Field, M. Inst. C.E., R. Thorne Thorne M.B., Prof. Prestwich, F.R.S., &c., &c. In addition to the interest taken in the Exhibition by medical men, architects, and manufacturers, the general public have recognised the importance of the work thus initiated by the Executive Committee of the Parkes Museum of Hygiene by subscribing to the Guarantee Fund, which at the meeting of the Committee last Tuesday was reported to amount to 1026*l.* 7*s.* At this meeting the Secretary read a letter from Mr. MacCormac, the Hon. Sec. General of the International Medical Congress, forwarding the following resolution which had been unanimously passed by the Executive Council of the International Medical Congress at their last meeting:—"That the sum of fifty pounds be guaranteed to the Committee of the International, Medical, and Sanitary Exhibition, to be held at South Kensington in connection with the Parkes Museum of Hygiene, on the occasion of the International Medical Congress."

THE programme for the annual meeting of the Iron and Steel Institute on the 4th, 5th, and 6th of May has just been issued. The first item on the programme is the presidential address of Mr. Josiah T. Smith, the president-elect, whose experience as one of the earliest and for many years one of the largest stee manufacturers in this country, and as the head of the most extenworks of their kind in the world, will give his address an exceptional interest. The papers to be read cover pretty fairly the whole field of the manufacture and application of steel for shipbuilding purposes. A paper will be read by Mr. Alexander Wilson of Sheffield on the manufacture of armour plates. The subject of the manufacture of steel and steel plates will be dealt with by Mr. Sergius Kern of Russia, who will describe improvements recently practised in Russia; while the experience lately gained in the practical use of steel for shipbuilding purposes will be dealt with in a paper by Mr. Denny of Dumbarton, at whose works on the Clyde a considerable amount of steel shipbuilding has been turned out during the last two years. The important question of the relative corrosion of iron and steel will be discussed by Mr. William Parker of Lloyd's. Another paper is promised by Capt. Jones, manager of the Thomson Steel Works, Pittsburg, on the manufacture of Bessemer steel and steel rails in America.

SCIENTIFIC honours are being paid to John Duncan, the weaver botanist. Recently the Inverness Scientific Society and

Field Club elected him an honorary member with a gift of 5*l.*, and the Banff Field Club gave 1*l.* 1*s.* When his story was first told by Mr. Jolly in *Good Words* in 1878, the Largo Naturalists' Society, one of the most active in the country, elected him an hon. member. The Edinburgh Field Naturalists' Club have lately issued a special circular and appeal on his behalf. Last week he was elected an hon. member by the Aberdeen Natural History Society, when a sketch of his life was given by Mr. Taylor, one of his pupils. Miss E. Brown has sent us 1*l.* for the John Duncan Fund.

WE see from a long article on the subject in the New York *Nation*, that the "Reports on the Total Solar Eclipses of July 29, 1878, and January 11, 1880, issued by the U.S. Naval Observatory," have appeared. We have not received a copy of the work yet, but from the article in the *Nation* it is evidently a valuable contribution to some of the questions suggested by solar eclipses.

THE Commission Supérieure of the Paris Electrical Exhibition has already deliberated on all the demands sent by French electricians. The utmost liberality has prevailed, and only a few technical questions have been reserved for more mature deliberation. But the authorisations will not be made definitive until after April 1, when the list of would-be exhibitors will be closed. The resolution of the Society of Telegraph Engineers and Electricians to organise the English section has been received with great satisfaction.

WE take the following from the *Gardener's Chronicle*:—Dr. Aitchison, Surgeon-Major in the Punjaub army, whose collections in the Kurrum Valley we alluded to on a former occasion, has returned from Afghanistan with another extensive collection of dried plants, and is now at Kew engaged in working them up. Amongst other interesting museum objects Dr. Aitchison has brought home specimens of *Chamærops Ritchieana*, a palm that covers miles of the alluvial plains with a dense bushy thicket. Frequently too it occurs as a branching tree fifteen to twenty-five feet high, but then usually in the vicinity of other trees or buildings. Dr. Aitchison's specimens illustrate this peculiarity exhibited by comparatively few other palms.

WE are glad to learn that the museum building begun some time ago under the auspices of the Perthshire Society of Natural Science is approaching completion. To equip and endow the museum a bazaar will be held in Perth towards the end of the year.

THE translation of Nägeli and Schwendener's treatise on the Microscope is approaching completion. Messrs. W. Swan Sonnenschein and Allen now announce its speedy issue to the public, which they trust will be effected during the present spring. The English editors, whose names will appear on the title-page, are Mr. F. Crisp (Secretary of the Royal Microscopical Society) and Mr. J. Mayall, jun., F.R.M.S., though several others have collaborated in the work. Messrs. Sonnenschin and Allen also announce for immediate issue an illustrated "Manual of Insects Injurious to Agriculture," by E. A. Ormerod, whose "Report of Injurious Insects for 1880" we reviewed in a recent number; and a second edition of "Prantl's Text-Book of Botany," by Vines, greatly revised, the first edition of which appeared last year.

WHERE is Mackay? "Here," we fancy a score of our readers will reply; but none of them would be "the real Mackay," as they say in the North, at least not the Mackay whose local habitation we inquire after. Happily we can answer our own question from the Christmas number of the *Mackay Standard*, a fact that shows that our Mackay must be considerably to the fore somewhere. "Mackay, according to the single archive at present extant to which we have been able to attain access, was first discovered by a gentleman of the name of Mackay, a Scotchman as his name would denote. That this is correct is more than probable, but it does not appear that, beyond giving his name to the place, he ever did anything to render himself famous. It may accordingly be accepted as a fact that he discovered the existence of the Pioneer River on which the town is situated, and the date of this discovery is placed at 1861, so that within a few days Mackay is twenty years of age. The Mackay District is in latitude 21° 10′, and is situated at a distance of 625 miles to the north-west of Brisbane, on the Pioneer River." So then Mackay is nobody at all, but a flourishing new town (it would be a "city" in the States) in Queensland, with shipping and wharves and warehouses, and prosperous sugar-mills, and "Clifton-on-the-Sea," a fashionable summer resort of the Mackayites, twelve miles off. The municipality (3450 acres) is said to have fifty miles of streets under its control; there is nothing said about houses, so most of them may not have left the quarry or the brick-kiln yet. The population of the district is given as 7500.

ON Friday will take place at Père Lachaise the inauguration of the monument erected by public subscription to Crocé-Spinelli and Sivel, the two victims of the tragic *Zenith* ascent. Speeches will be delivered by M. Paul Bert, Professor of Physiology to the Sorbonne, who organised the ascent; M. Hervé Mangon, director of the Arts-et-Métiers, who was the president of the Société de Navigation Aérienne, then in office; and M. Gaston Tissandier, who was a party in the ascent, and escaped by a marvellous concurrence of circumstances.

ON Wednesday last week at 12.10 a.m. another shock of earthquake was felt at Casamicciola and Lacco Ameno. All the people fled to the open country; much consternation exists, as the people fear other shocks. Little damage was done, only a few injured walls and a tile factory have fallen. Vesuvius quiet.

A RATHER severe shock of earthquake was felt at Agram on March 17 at 3h. p.m., duration two seconds. It was accompanied by wave-like motions of the ground.

IT is announced that the entire length of the St. Gothard Railway between Airolo and the Lago Maggiore will be finished by the end of June; but the great tunnel, owing to difficulties about the vaulting, cannot be completed before November.

THE Conseil d'Hygiène of Paris has just issued a large 4to volume of 700 pages recounting all the precautions taken against several so-called "Industries Insalubres" practised in Paris. The work of the Conseil d'Hygiène extends over a period of five years, from 1872 to 1877, and relates to more than 200 industries in some of their essential details. Amongst the recommendations made are a refrigerating machine for dead-houses and a special establishment for cleansing contaminated objects with superheated vapours. Amongst the curious observations is the analysis of a parasitic vegetation developing on bread for the military. It appears the original sporulæ were brought from Germany by soldiers taken prisoners in the Franco-German war, returning home.

AS the preparation of dynamite has acquired great importance, M. Gobi shows (*Memoirs* of the St. Petersburg Soc. of Nat.) that formerly the best dynamite was made with the "Kieselguhr" of Hanover, which can absorb as much as 75 per cent. of nitroglycerine, but is now made with the diatomaceous deposits from Randanne, in the department of Puy-de-Dôme, which can absorb from 73 to 78 per cent. of nitroglycerine. It is worthy of notice that both these formations have been described by Ehrenberg. It is obvious that the good quality of dynamite prepared from these two deposits depends upon the porosity of the small *débris* of the frustules of the microscopical diatoms, and that, when determining the qualities of a diatomaceous

deposit, we must take into account not only its purity, but also the size of the diatomaceæ it contains; thus, M. Gobi recommends especially those deposits which contain mostly frustules from the species of *Epithemia*, *Navicula*, *Synedra*, and *Melosira*, their frustules being of a greater size and more porous than those of the *Fragillaria*, *Cocconeis*, *Nitzschia*, &c. As to the use of pounded coal or bricks, and of sand, it ought to be quite given up.

AT the Annual Meeting of the Davenport (U.S.) Academy of Sciences on January 6 a very satisfactory report was given of the condition of the Society and of the good work it is doing. The president gave an address, in which he sketched the progress which has been made in a knowledge of the Mound Builders, the prehistoric people of the Mississippi Valley, to whose remains the Academy has all along devoted special attention.

A SMALL well-printed *in memoriam* volume on the late Prof. Benjamin Peirce has been issued at Cambridge, Mass. It consists of the various notices, poems, addresses, &c., that appeared in consequence of his death, including three funeral sermons.

THE third *Annual Report* of the Dulwich College Science Society speaks hopefully of its condition. The Society has been steadily progressing, and has already collected a museum "which would do credit to many an older society." The *Report* contains abstracts of several of the papers and lectures given during the year.

AN encouraging Annual Report (the forty-seventh) has been sent us from the York School Natural History Society; all its sections have evidently been doing well. In connection with this we are glad to notice that, under the title of the *Natural History Journal and School Reporter*, the journal conducted by the Societies in Friends' Schools has assumed a new and more attractive form, at the same time that its programme has been somewhat extended. The two numbers for February and March contain some creditable original papers.

A SECOND edition of Mr. W. C. Wyckoff's "Silk Goods of North America" has been published; the first edition was noticed in NATURE, vol. xx. p. 574.

THE additions to the Zoological Society's Gardens during the past week include a White-fronted Capuchin (*Cebus albifrons*) from South America, presented by Mr. C. Drake Sewell; a Ring-tailed Coati (*Nasua rufa*) from South America, presented by Mrs. Fuller; a Common Badger (*Meles taxus*), British, presented by Mr. Rocke; a Black-winged Peafowl (*Pavo nigripennis*) from Cochin China, presented by Mr. J. Marshall; a Rough-eyed Cayman (*Alligator sclerops*) from South America, presented by Mr. Arthur C. Ponsonby; a Horrid Rattlesnake (*Crotalus horridus*) from Brazil, presented by Mr. C. A. Craven; a Jararaca (*Trigonocephalus atrox*) from Brazil, presented by Dr. A. Stradling, C.M.Z.S.; a Macaque Monkey (*Macacus cynomolgus*) from India, deposited; a Goral Antelope (*Nemorhædus goral*), two Bar-headed Geese (*Anser indicus*) from India, purchased; a Javan Chevrotain (*Tragulus javanicus*) from Java, a Red Bird of Paradise (*Paradisea sanguinea*), a Twelve-wired Bird of Paradise (*Seleucides albus*), a Manucode (*Manucodia atra*) on approval.

OUR ASTRONOMICAL COLUMN

THE SOLAR PARALLAX.—In a communication to the Academy of Sciences of Paris on the 7th inst., M. Puiseux has discussed the observations of internal contacts during the last transit of Venus, which were made at stations occupied by the French expeditions. These include observations of second and third contacts at Pekin, St. Paul, Nagasaki, Saigon, and Kobé, and of second contact at Noumea. Seventeen equations are furnished by these data, and various combinations are made by Halley's method and by the method of Delisle. The former method supplies twelve separate results, the concluded parallaxes varying from 8″·78 to 9″·17, which are arranged according to the amount of the parallax factor: the simple arithmetical mean is 8″·98. On Delisle's method the combinations for second contact give fourteen values between 8″·86 and 9″·20, of which the mean is 9″·01, and those for third contact furnish ten values between 8″·63 and 8″·90—the mean being 8″·92. These figures considered with respect to others which have been obtained from observations of the same transit and on other methods, cannot be said to enlighten us materially as to the true amount of the sun's mean parallax. M. Puiseux thinks the observations of contact in 1874 have not given results so accordant as astronomers had looked for, but he nevertheless is far from discouraging efforts to secure observations of contacts in 1882; the phenomena in 1874 did not present that geometrical simplicity which had been formerly expected, but presented a succession of phases which were the more difficult to identify in the records of the observers according as the telescopes employed were more dissimilar; and he urges (1) that the different stations should be provided with telescopes of large aperture, to be employed under as identical circumstances as practicable, and (2) that the observers should be exercised "à l'aide d'appareils convenables," to appreciate in the same manner the appearances which the contacts may offer. The former consideration at least is too well understood as of paramount importance to be likely to be overlooked by any of the national committees now engaged in arranging for the most efficient observation of the transit in 1882.

VARIABLE STARS.—Minima of Algol occur by Schönfeld's formula on April 3 at 10h. 51m. G.M.T., and April 6 at 7h. 40m., and the next series observable in this country commences on May 13 at 14h. 17m.

In the uncertainty that exists with respect to the period of Ceraski's circumpolar variable, the following calculated times of minima are only to be regarded as rough indications:—

	h.	m.			h.	m.
April 3 ...	12	56 G.M.T.	April 18 ...	11	58 G.M.T.
8 ...	12	37	23 ...	11	38
13 ...	12	17	28 ...	11	19

A constant period of 2·49326 days is here assumed. Prof. C. H. Peters publishes details of his observations of a number of new variable stars (*Astron. Nach.*, No. 2360), and Dr. Dunér notifies the variability of the red star Schj. 57 *a*, which stands thus in the *Durchmusterung*:—

	h.	m.	s.		°	′	″
9·4m. ...	R.A. 5	17	32·7	... Decl. +	34	2	1

This star was invisible in the Lund refractor on January 20, but was well seen on February 23; in September and October, 1878, he had confirmed its fiery-red colour, and found the spectrum of the Class III. *b*. V Herculis varies from 8m. to 12m., and the period seems to be about 290 days; the next maximum may be expected in October of the present year.

ANCIENT ASTRONOMY.—In No. 2 of the new periodical, *Urania*, is an elaborate paper by Prof. Schjellerup of Copenhagen, "Sur le Chronomètre Céleste d'Hipparque," in which he discusses the question "Comment les anciens astronomes ont-ils déterminé l'heure de la nuit, et à quelle exactitude ont-ils pu parvenir?" In this paper he has calculated by the strict trigonometrical formulæ (an investigation of which is prefixed) the positions of the forty-four stars mentioned in the third book of the only work of Hipparchus which has descended to us. His "Three Books of Commentaries on the phenomena of Aratus and Eudoxus," printed for the first time in 1567 (Lalande, "Bibliographie," p. 91) from two manuscripts of the Biblioth. Mediceæ and the Library of the Vatican. Petau brought out a new edition, in which he availed himself of an ancient well-written manuscript preserved in the Bibliothèque Royale, and which forms part of the third volume of his "Uranologion." Prof. Schjellerup gives the Greek text essentially after the edition of Petau, with as nearly as possible a literal translation. He concludes his paper with the remark, "Dans l'état actuel on peut prouver que les Astronomes d'Alexandrie ont pu déterminer le temps sidéral presqu'à une minute près." It contains the right ascensions and declinations of the stars in question for every hundredth year, from − 300 to + 100, with the amount of proper motion to the respective epochs, and is a production which merits the attention of those who are interested in the Astronomy of the Ancients.

THE ACADEMY OF SCIENCES, PARIS.—At the annual public sitting of the Paris Academy on the 14th inst. the Lalande Prize